

WHAT IS CLAIMED IS:

1. A radio-controlled timepiece having a reception means for receiving a standard time signal containing time data, a timekeeping means for keeping time based on a reference signal from a reference signal source, a time display means having hands and indicating the time by means of the hands, a drive means for moving the hands according to the time, and an external operating member enabling changing the time display means by means of a first specific input operation, said timepiece being effective for adjusting its time based on time data received by the reception means, said radio-controlled timepiece comprising:

an operation detection means for detecting a second specific input operation of the external operating member;

a controller for resetting only the seconds value of the time kept by the timekeeping means to a specific value and starting timekeeping by the timekeeping means in response to the operation detection means detecting the second specific input operation; and

a time-adjustment means for adjusting the time indicated by the time display means based on a time difference between the seconds value of received time data and the seconds value of the timekeeping means when time data is first received after the second specific input operation.

2. The radio-controlled timepiece of claim 1, further comprising:

a kept-time storage means for storing internal timekeeping data; and

a current time storage means for storing time data received by the reception means;

wherein the time-adjustment means determines said time difference between the seconds value of the received time data and the timekeeping means by comparing the seconds value stored in the kept-time storage means and the seconds value of the current time storage means.

3. The radio-controlled timepiece of claim 2, wherein the time-adjustment means sets the time data stored in the kept-time storage means to the received time data after obtaining said time difference.

4. The radio-controlled timepiece of claim 1, wherein:

the controller determines that the reset seconds value of the timekeeping means lags the seconds value of the received time data based on the time difference therebetween if the time difference is within -30 seconds, and is leads the received time data if the time difference is within +30 seconds; and

the time-adjustment means adjusts the indicated time based on this determination.

5. The radio-controlled timepiece of claim 1, wherein the controller resets the seconds value of the kept time to 0 seconds as the predetermined value.

6. The radio-controlled timepiece of claim 1 wherein:

the controller resets the seconds value of the kept time to 0 seconds as the predetermined value;

the controller determines that the reset seconds value of 0 and subsequently kept time by the timekeeping means is fast relative to the seconds value of the received time data if the time difference therebetween is greater than 0 seconds and not greater than 30 seconds, and is slow relative to the seconds value of the received time data if said time difference is greater than 30 seconds and not greater than 60 seconds; and

the time-adjustment means adjusts the indicated time based on this determination of the controller.

7. A radio-controlled timepiece comprising:

a reception means for receiving a standard time signal containing update time data;

a timekeeping means for keeping time based on a reference signal from a reference signal source;

an analog time display means having hands for indicating the time;

a drive means for driving the analog time display means according to the time;

an external operating member enabling changing the time display means by means of a first specific input operation;

an operation detection means for detecting a second specific input operation of the external operating member;

a time-adjustment means for adjusting the time based on update time data received by the reception means;

wherein, when update time data is first received after the operation detection means detects the second specific input operation of the external operating member, the time-adjustment means resets corresponding time data in the time data kept by the timekeeping means using at least part of the received update time data, and

until a third specific input operation of the external operating member is detected, comparing received update time data and the kept-time data when time data is subsequently received, and based on a time difference therebetween adjusting the kept-time data and the hands.

8. The radio-controlled timepiece of claim 7, further comprising:

a kept-time storage means for storing kept-time data; and

a current time storage means for storing update time data received by the reception means;

wherein the time-adjustment means resets said corresponding time data in the time data kept by the timekeeping means by transferring at least part of the received update time data to the kept-time storage means; and

the received update time data is compared with the kept-time data by comparing received update time data with time data in the kept-time storage means.

9. The radio-controlled timepiece of claim 8, wherein:

the analog time display means includes hands for indicating time data composed of hours, minutes, and seconds, and an analog calendar display means for indicating calendar data including a date;

the timekeeping means includes said time data and calendar data; and

when update time data is first received after the operation detection means detects the second specific input operation of the external operating member, the time adjustment means further stores at least the calendar data from the received update time data in the kept-time storage means.

10. The radio-controlled timepiece of claim 7, further comprising a controller; wherein:

the standard time signal is transmitted at one-second intervals;

the controller compares the timing of a first specific change in each received standard time signal with the timing of a second specific change in said reference signal of the timekeeping means, and if the second specific change occurs in a time period within +0.5 seconds of the first specific change then determining that the timepiece is fast by the time period, and determining that the timepiece is slow by the time period if said time period is within -0.5 second; and

the time-adjustment means adjusts the kept time based on this determination.

11. A control method for a radio-controlled timepiece that adjusts a kept time indicated by hands based on a received standard time signal containing update time data, said control method comprising:

resetting only the seconds value of the kept time to a predetermined value and starting timekeeping when a specific input operation of an external operating member that can change the displayed time is recognized; and

adjusting the displayed time based on a time difference between the seconds value of the kept time and the seconds value of received update time data when the update time data is first received following the resetting of the seconds value of the kept time to the predetermined value.

12. A control method for a radio-controlled timepiece that adjusts a kept time indicated by an analog time display means having hands based on a received standard time signal containing update time data, wherein the kept time is maintained by a timekeeping means; said control method comprising:

when update time data is first received after a first specific input operation of an external operating member that can change the displayed time is recognized, setting corresponding kept-time data in said timekeeping means using at least part of the information in the received update time data; and

until a second specific input operation of the external operating member is detected, comparing received update time data and the kept-time data when update time data is thereafter received, and based on a time difference therebetween adjusting the kept-time data and the hands.

13. A radio-controlled timepiece having a signal receiver for receiving a standard time signal containing update time data, a timekeeping structure for keeping time based on a reference signal from a reference signal source, a time display having time indicating hands, a driver for moving the hands according to the time, and an external operating member enabling changing the time display by means of a first specific input operation, said timepiece being effective for adjusting its kept time based on received update time data, said radio-controlled timepiece comprising:

an operation detector for detecting a second specific input operation of the external operating member;

a controller for resetting only the seconds value of the time kept by the timekeeping structure to a specific value and restarting the timekeeping operation of the timekeeping structure in response to the operation detector detecting the second specific input operation; and

a time-adjustor for adjusting the time indicated by the time display based on a time difference between the seconds value of received update time data and the seconds value of the timekeeping structure when update time data is first received after the second specific input operation.

14. The radio-controlled timepiece of claim 13, further comprising:

a kept-time storage for storing internal timekeeping data; and

a current time storage for storing time data received by the receiver;

wherein the time-adjustor determines said time difference between the seconds value of the received update time data and the timekeeping structure by comparing the seconds value stored in the kept-time storage and the seconds value of the current time storage.

15. The radio-controlled timepiece of claim 14, wherein the time-adjustor sets the time data stored in the kept-time storage to the received update time data after obtaining said time difference.

16. The radio-controlled timepiece of claim 13, wherein:

the controller determines that the reset seconds value of the timekeeping structure is lags the seconds value of the received update time data based on the time difference therebetween if the time difference is within -30 seconds, and leads the received time data if the time difference is within +30 seconds; and

the time-adjustor adjusts the indicated time based on this determination.

17. The radio-controlled timepiece of claim 13, wherein the controller resets the seconds value of the kept time to 0 seconds as the predetermined value.

18. The radio-controlled timepiece of claim 13 wherein:

the controller resets the seconds value of the kept time to 0 seconds as the predetermined value;

the controller determines that the reset seconds value of 0 and subsequently kept time by the timekeeping structure is fast relative to the seconds value of the received update time data if the time difference therebetween is greater than 0 seconds and not greater than 30 seconds, and is slow relative to the seconds value of the received update time data if said time difference is greater than 30 seconds and not greater than 60 seconds; and

the time-adjustor adjusts the indicated time based on this determination of the controller.